REMARKS

Applicant requests favorable reconsideration of this application in view of the foregoing amendments and the following remarks. Of claims 1-16 that were pending in the application, claims 1-7 were rejected in the Office Action and claims 8-16 were previously withdrawn from consideration. By way of this Amendment: (a) claims 1-7 have been non-narrowingly amended and have been amended for typographical purposes; (b) previously withdrawn claims 8-16 have been canceled, without prejudice or disclaimer; and (c) new claims 17-43 have been added, without adding new matter. Accordingly, claims 1-7 and 17-43 are respectfully presented for further consideration on the merits.

1. Response to Advisory Action

A. "Interest" of the Declarant

In the Advisory Action, the Examiner characterized the Declaration of the inventor, Dr. Gernot von Haas, as being set forth by one who has an "interest . . . in the outcome of the case." *See* Advisory Action at p. 2. In response to this characterization, Applicant is concurrently filing a Declaration of Prof. Dr. Frank Krafft, a materials science professor at the University of Applied Sciences in Munich. Dr. Krafft's Declaration is responsive to the "Material Selection and Properties" document that was first cited in the Final Office Action to bolster the Examiner's position (as later discussed).

The Declaration of Dr. Krafft is by an individual who is neither an inventor nor an owner or regular employee of the assignee (*i.e.,* Dieffenbacher GmbH + Co. KG) of the instant application. Accordingly, in contrast to the Examiner's characterization of the Declaration of Dr. von Haas, the Declaration of Dr. Krafft is clearly made by one who lacks a vested "interest . . . in the outcome of the case." Therefore, the Examiner should give patentable weight to the Declaration of Dr. Krafft.

B. "Factual Support"

In the Advisory Action, the Examiner also criticized the Declaration of Dr. von Haas as having an "absence of factual support for the expert's opinion." *See* Advisory Action at p. 2. In response to this characterization, Applicant respectfully notes that the "Materials Selection and Properties" document cited by the Examiner to bolster the Examiner's position explicitly undercuts the Examiner's position. Specifically, the "Materials Selection and Properties" document states that "Aluminum expands or contracts with changes in temperature, making it less desirable for components that require long term stability." *See* "Materials Selection and Properties" at p. 18.11, left column. In contrast, the metal mesh belt that is recited in claim 1 is

constantly exposed not only to "changes in temperature" but also to the physical stresses associated with the step of "applying pressure and heat to the mat" with the continuously operating press. In addition, as the Examiner has recognized that Beck (which the Examiner cites for a teaching of aluminum) "is not concerned with making wood material boards" (*see* Office Action at p. 3), Applicant submits that Beck is non-analogous art. Accordingly, based on the foregoing factual characterization of aluminum and the non-analogous nature of Beck, one of ordinary skill in this art would clearly not be motivated to use a metal mesh belt formed of aluminum.

2. Rejections of Claims 1-7 under 35 U.S.C. § 103

The Office Action rejected:

(a) claims 1, 4, 6, and 7 under 35 U.S.C. § 103(a) as allegedly being obvious when considering U.S. Patent No. 5,538,676 ("Bielfeldt-I") in view of U.S. Patent Nos. 3,776,538 ("Beck") and 4,933,125 ("Reiniger"); and

(b) claims 2, 3, and 5 under 35 U.S.C. § 103(a) as allegedly being obvious when considering Bielfeldt-I in view of Beck, Reiniger, and U.S. Patent No. 5,762,980 ("Bielfeldt-II").

Both of the above-listed rejections also rely on technical teachings set forth in: (1) a "Properties of Metal" table in the "Engineer's Edge"; and (2) a "Material Selection and Properties" document by Melles Griot. For the following reasons, Applicant respectfully traverses each of these rejections.

As non-narrowingly amended herein, independent claim 1 (*i.e.*, the claim from which claims 2-7 depend) recites a method for the continuous manufacture of wood material boards having a textured surface on at least one side. This method includes, among other possible steps (italic and underline emphasis added):

> forming a mat of a wood or lignocellulose-containing material, treated with a binding agent, onto a continuously moving conveyor belt;
>
> introducing the mat between steel belts each circulating around one of an upper and lower frame part of a continuously operating press; and
>
> after the step of introducing the mat, curing the mat in the continuously operating press to form one of a strand of boards and an endless wood material board by applying pressure and heat to the mat,
>
> wherein the continuously operating press comprises at least one endless metal mesh belt configured to circulate with a corresponding one of said steel belts,

> *wherein the metal mesh belt comprises a material* having a thermal conductivity considerably higher than that of the corresponding steel belt and *having a thermal expansion coefficient approximately equal to that of the corresponding steel belt*,
>
> wherein the metal mesh belt and the corresponding steel belt are configured to pass through an insulating tunnel, in a return run, to reduce heat loss by thermal radiation,
>
> wherein the metal mesh belt is configured to pass through a heating tunnel, which is separated from the corresponding steel belt,
>
> wherein the heating tunnel is configured to heat the metal mesh belt to a temperature that is higher than a temperature of the corresponding steel belt by at least 40°C, and
>
> wherein curing the mat comprises applying a specific pressure to the mat of at least 0.3 N/mm^2 during a first at least 80% of a pressing time.

As hereafter explained in detail, the combination of Bielfeldt-I, Beck, Reiniger, and Bielfeldt-II (when considering the teachings in the "Properties of Metal" table and the "Material Selection and Properties" document) fails to teach or suggest at least the above-italicized and above-underlined limitations of claim 1.

In supporting the rejection of claim 1, the Examiner relies on Beck for its perforated aluminum belt and asserts that aluminum has "a thermal expansion coefficient approximately equal to that of steel." *See* Office Action at p. 3 (citing the "Material Selection and Properties" document). Before addressing the specific shortcomings of Beck, Applicant respectfully submits that Beck is non-analogous art because, as the Examiner admits, Beck "is not concerned with making wood material boards." *See* Office Action at p. 3.

Regardless of whether Beck is non-analogous prior art, Beck does not support the Examiner's assertion that the thermal expansion coefficient of aluminum is "approximately equal to that of steel." Specifically, the "Material Selection and Properties" document itself provides that aluminum has a "*high* coefficient of thermal expansion" (*i.e.*, 24×10^{-6}/°C) whereas steel as a "*lower* thermal expansion coefficient" (*i.e.*, 11×10^{-6}/°C to 17×10^{-6}/°C). *See* "Material Selection and Properties" at p. 18.11 (underline and italic emphasis added).

As the Examiner can see, the thermal expansion coefficient of steel is 46% that of aluminum at a first end of the "Material Selection and Properties" range and only 71% that of aluminum at the second end of the range. Even at the second end of the "Material Selection and Properties" range, 71% is not "approximately equal" to 100%, as that term is used in claim 1. To support its view of the references, Applicant is concurrently filing the aforementioned Declaration of Dr. Krafft. As Dr. Krafft indicates, the thermal expansion coefficients for the two materials are not "approximately equal." Rather, as Dr. Krafft explains, they are dissimilar:

> For example, [the "Material Selection and Properties"] document itself uses different adjectives to describe the coefficient values of those two materials: that of aluminum is described as "high" while that of steel is described as "lower." That document does **not** say that the two materials have thermal expansion coefficient that are "approximately equal" as required by claim 1, and a person of ordinary skill in the art would not regard those two values as "approximately equal."

Declaration of Dr. Frank Krafft at p. 2 (bold and underline emphasis in original).

In addition to the foregoing, the combination of Bielfeldt-I, Beck, Reiniger, and Bielfeldt-II also fails to teach or suggest both a metal mesh belt and a corresponding steel belt that "are configured to pass through an insulating tunnel, in a return run, to reduce heat loss by thermal radiation," as above-underlined in claim 1. In defending this rejection, the Examiner states, on page 3 of the Office Action, that: "It is interpreted that presses 12 and 13 [of Beilfeldt-I] create an insulating tunnel which reduce heat loss to the steel band." Even assuming, *arguendo,* that the presses 12 and 13 define an insulating tunnel, this "insulating tunnel" does not satisfy the insulating tunnel recited in claim 1. Specifically, as clearly shown in Figure 1 of Beilfeldt-I, the metal wire belt 2 and the steel belt 6 pass through this "insulating tunnel" in a forward (*i.e.,* non-return) run. Moreover, with respect to Beilfeldt-I's insulating covering hood 11, it is respectfully noted that: (a) only the metal wire belt 2 passes through the covering hood 11; and (b) the metal wire belt 2 passes through the covering hood 11 in a forward (*i.e.,* non-return) run. In contrast, the instant application teaches, for example in Figure 1, a steel belt 4 and a metal mesh belt 15 that pass through an insulating tunnel 16 in a return run, as above-underlined in claim 1.

In light of at least the foregoing reasons, it is clear that the combination of Bielfeldt-I, Beck, Reiniger, and Bielfeldt-II (when considering the teachings in the "Properties of Metal" table and the "Material Selection and Properties" document) fails to teach or suggest at least the above-italicized and above-underlined limitations of claim 1. Accordingly, the combination can not be used to reject claim 1, or any claim dependent thereon, under 35 U.S.C. § 103(a). Moreover, as claims 2-7 depend from claim 1, each of these dependent claims is also allowable over Bielfeldt-I, Beck, Reiniger, and Bielfeldt-II (when considering the teachings in the "Properties of Metal" table and the "Material Selection and Properties" document), without regard to the other patentable limitations recited therein. Accordingly, a withdrawal of the rejections of claims 1-7 is both warranted and earnestly solicited.

3. New Claims 17-43

A. New Claims 17 and 18

New claims 17 and 18 depend from claim 1 and are, therefore, allowable for at least the same reasons as claim 1.

B. New Claims 19-30

New claim 19 (*i.e.*, the claim from which claims 20-30 depend) recites a method for the continuous manufacture of wood material boards having a textured surface on at least one side. This method includes, among other steps (italic and underline emphasis added):

> forming a mat of a wood or lignocellulose-containing material, treated with a binding agent, onto a continuously moving conveyor belt;
>
> introducing the mat between steel belts each circulating around one of an upper and lower frame part of a continuously operating press; and
>
> curing the mat in the continuously operating press to form one of a strand of boards and an endless wood material board by applying pressure and heat to the mat,
>
> wherein the continuously operating press comprises at least one endless metal mesh belt configured to circulate with a corresponding one of said steel belts and to travel with the mat,
>
> *wherein the metal mesh belt and the corresponding steel belt are configured to pass simultaneously through an insulating tunnel, in a return run, to reduce heat loss by thermal radiation, and*
>
> wherein the metal mesh belt comprises a material having a thermal conductivity considerably higher than that of the corresponding steel belt.

As previously discussed with respect to claim 1, the combination of Bielfeldt-I, Beck, Reiniger, and Bielfeldt-II fails to teach or suggest a metal mesh belt and a steel belt that pass through an insulating tunnel in a return run. Further to this failure, the combination of these references also fails to teach or suggest that such a passing through in a return run is simultaneous. Moreover, the Examiner admitted this failure of Beilfeldt-I by stating, on page 3 of the Office Action, that the rejection of claim 1 was justified because: "It is noted that the limitation [of claim 1] does not require . . . the mesh belt and the steel belt to pass through an insulating tunnel simultaneously." As new claim 19 recites "simultaneously," it is clear that new claim 19 is allowable over the combination of Bielfeldt-I, Beck, Reiniger, and Bielfeldt-II. Moreover, as claims 20-30 depend from claim 19, each of these dependent claims is also allowable over the combination of Bielfeldt-I, Beck, Reiniger, and Bielfeldt-II, without regard to the other patentable limitations recited therein.

C. New Claims 31-43

New claim 31 (*i.e.*, the claim from which claims 32-43 depend) recites a method for the continuous manufacture of wood material boards having a textured surface on at least one side. This method includes, among other steps (italic emphasis added):

> forming a mat of a wood or lignocellulose-containing material, treated with a binding agent, onto a continuously moving conveyor belt;
>
> introducing the mat between steel belts each circulating around one of an upper and lower frame part of a continuously operating press; and
>
> curing the mat in the continuously operating press to form one of a strand of boards and an endless wood material board by applying pressure and heat to the mat,
>
> wherein the continuously operating press comprises at least one endless metal mesh belt configured to circulate with a corresponding one of said steel belts and to travel with the mat,
>
> wherein the metal mesh belt comprises a material having a thermal conductivity considerably higher than that of the corresponding steel belt,
>
> *wherein the metal mesh belt has a thermal expansion coefficient within the range of steel*, and
>
> wherein the metal mesh belt texturizes a surface of the mat.

Support for the above-italicized limitation of claim 31 is provided in Table 1 on page 11 of the instant application. Further support is provided in a German document entitled: "Dubbel Taschenbuch fur den Maschinenbau" ("Dubbel"), which is being submitted concurrently herewith via an Information Disclosure Statement. Dubbel clearly shows the thermal expansion coefficient of three types of steel (Stahl) as being between 11×10^{-6}/°C and 16×10^{-6}/°C, which comports with Table 1 of the instant application. Moreover, although one of the other types of steel (*i.e.*, 18% Cr, 9% Ni) that is shown in Dubbel has a thermal expansion coefficient that rises as high as about 19×10^{-6}/°C at 500°C, this value is still well below the smallest of the shown thermal expansion coefficients of aluminum (*i.e.*, 24×10^{-6}/°C at 100°C). Accordingly, as the thermal expansion coefficient of aluminum is not "within the range of steel," the combination of Bielfeldt-I, Beck, Reiniger, and Bielfeldt-II fails to teach or suggest at least the above-italicized limitation of claim 31. Moreover, as claims 32-43 depend from claim 31, each of these dependent claims is also allowable over the combination of Bielfeldt-I, Beck, Reiniger, and Bielfeldt-II, without regard to the other patentable limitations recited therein.

CONCLUSION

For the aforementioned reasons, claims 1-7 and 17-43 are now in condition for allowance. A Notice of Allowance at an early date is respectfully requested. The Examiner is invited to contact the undersigned if such communication would expedite the prosecution of the application.

Respectfully submitted,

Date: March 22, 2006

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